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10/686,458	10/14/2003	Robert Bland	2003P14123US	7250

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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

RODRIGUEZ, WILLIAM H

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,458

Applicant(s)

BLAND ET AL.

Examiner

William H. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 10 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/14/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-9, 11-17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Joos et al. (U.S. 5,729,967).

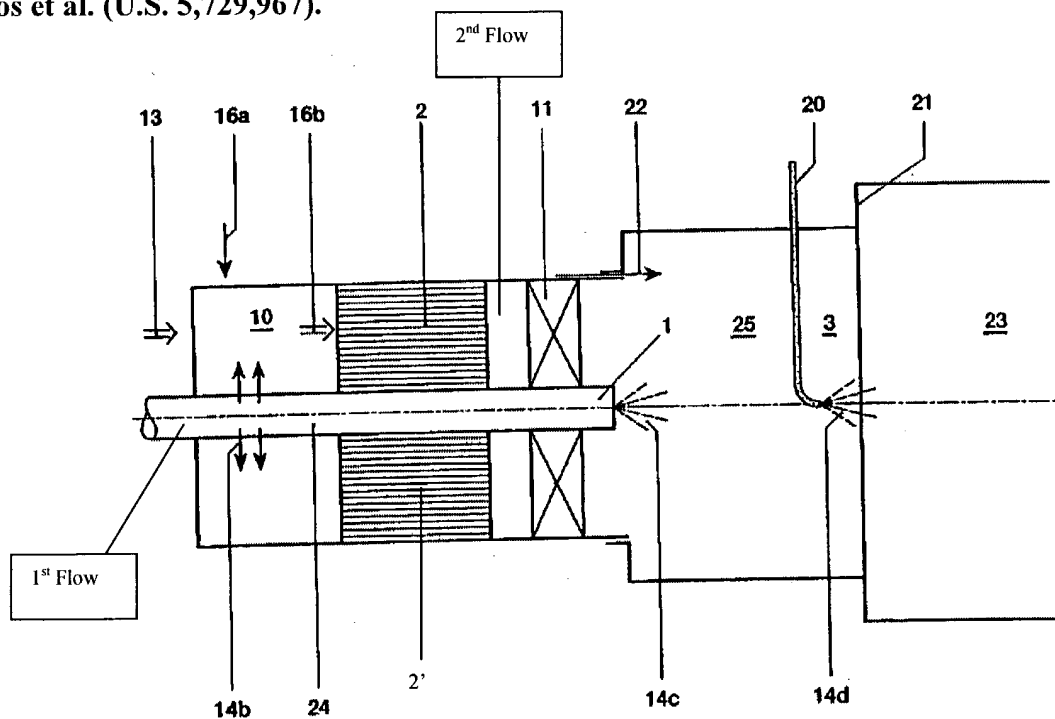


FIG. 2

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With respect to claim 1, **Joos** teaches a catalytic combustor system for a turbine engine comprising: at least one pilot nozzle 1 providing a first flow exiting the pilot nozzle, at least one catalytic module 2, 2' providing a second flow exiting the plurality of catalytic modules, wherein at least a portion of the second flow is substantially adjacent to at least a portion of the first flow; and at least one vortex forming device 11 positioned substantially within the path of the second flow, wherein at least one vortex is formed in at least a portion of the second flow, whereby at least a portion of the first flow mixes with at least a portion of the second flow. See particularly **Figure 2** of Joos.

With respect to claim 2, **Joos** teaches that the at least one catalytic module 2 substantially peripherally surrounds the pilot nozzle 1. See particularly **Figure 2** of Joos.

With respect to claim 3, **Joos** teaches that the at least one pilot nozzle 1 substantially peripherally surrounds the catalytic module 2'. See particularly **Figure 2** of Joos.

With respect to claim 4, **Joos** teaches that the at least one vortex forming device 11 is a swirler.

With respect to claim 5, **Joos** teaches that the at least one vortex forming device 11 is positioned substantially adjacent to the exit of the at least one catalytic module 2.

With respect to claim 6, **Joos** teaches that the at least one vortex forming device 11 is positioned downstream of the at least one catalytic module 2.

With respect to claim 7, **Joos** teaches that the vortex forming device includes a plurality of surfaces, wherein each of the surfaces is substantially oblique to the path of the second flow (inherent that a typical swirler has surfaces that are oblique to the flow path in order to create the vortex).

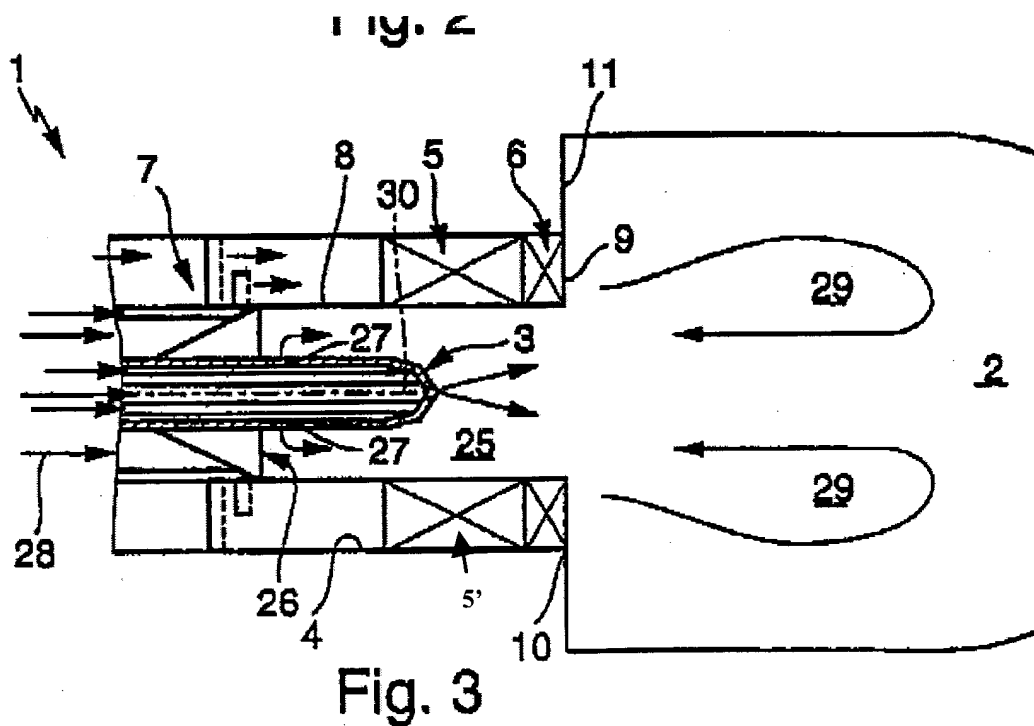
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With respect to claim 8, **Joos** teaches that the second flow is substantially laminar prior to encountering the vortex forming device 11 (inherent since the purpose of the swirler 11 is to create a turbulence/vortex to enhance mixing).

With respect to claim 9, **Joos** teaches that the first flow is partially reacted and the second flow is partially reacted (complete reaction takes place when the first and second flows mix).

With respect to claims 11-17, 19 and 20, since **Joos** has the same structure as claimed by the invention in claims 1-9 (see rejection above), it is inherent that **Joos's** device would be able to perform the recited method steps.

3. Claims 1-9, 11-17, 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by **Eroglu et al.** (U.S. 6,609,905).



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With respect to claim 1, **Eroglu** teaches a catalytic combustor system for a turbine engine comprising: at least one pilot nozzle 3 providing a first flow exiting the pilot nozzle, at least one catalytic module 5, 5' providing a second flow exiting the plurality of catalytic modules, wherein at least a portion of the second flow is substantially adjacent to at least a portion of the first flow; and at least one vortex forming device 6 positioned substantially within the path of the second flow, wherein at least one vortex is formed in at least a portion of the second flow, whereby at least a portion of the first flow mixes with at least a portion of the second flow. See particularly **Figure 3** of Eroglu.

With respect to claim 2, **Eroglu** teaches that the at least one catalytic module 5 substantially peripherally surrounds the pilot nozzle 3. See particularly **Figure 3** of Eroglu.

With respect to claim 3, **Eroglu** teaches that the at least one pilot nozzle 3 substantially peripherally surrounds the catalytic module 5'. See particularly **Figure 3** of Eroglu.

With respect to claim 4, **Eroglu** teaches that the at least one vortex forming device 6 is a swirler.

With respect to claim 5, **Eroglu** teaches that the at least one vortex forming device 6 is positioned substantially adjacent to the exit of the at least one catalytic module 5.

With respect to claim 6, **Eroglu** teaches that the at least one vortex forming device 6 is positioned downstream of the at least one catalytic module 5.

With respect to claim 7, **Eroglu** teaches that the vortex forming device 6 includes a plurality of surfaces, wherein each of the surfaces is substantially oblique to the path of the second flow (inherent that a typical swirler has surfaces that are oblique to the flow path in order to create the vortex).

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With respect to claim 8, **Eroglu** teaches that the second flow is substantially laminar prior to encountering the vortex forming device 6 (inherent since the purpose of the swirler 6 is to create a turbulence/vortex to enhance mixing).

With respect to claim 9, **Eroglu** teaches that the first flow is partially reacted and the second flow is partially reacted (complete reaction takes place when the first and second flows mix).

With respect to claims 11-17, 19 and 20, since **Eroglu** has the same structure as claimed by the invention in claims 1-9 (see rejection above), it is inherent that **Eroglu**'s device would be able to perform the recited method steps.

4. Claims 1-4, 6-9, 11-17, 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by **Newburry** (U.S. 6,588,213).

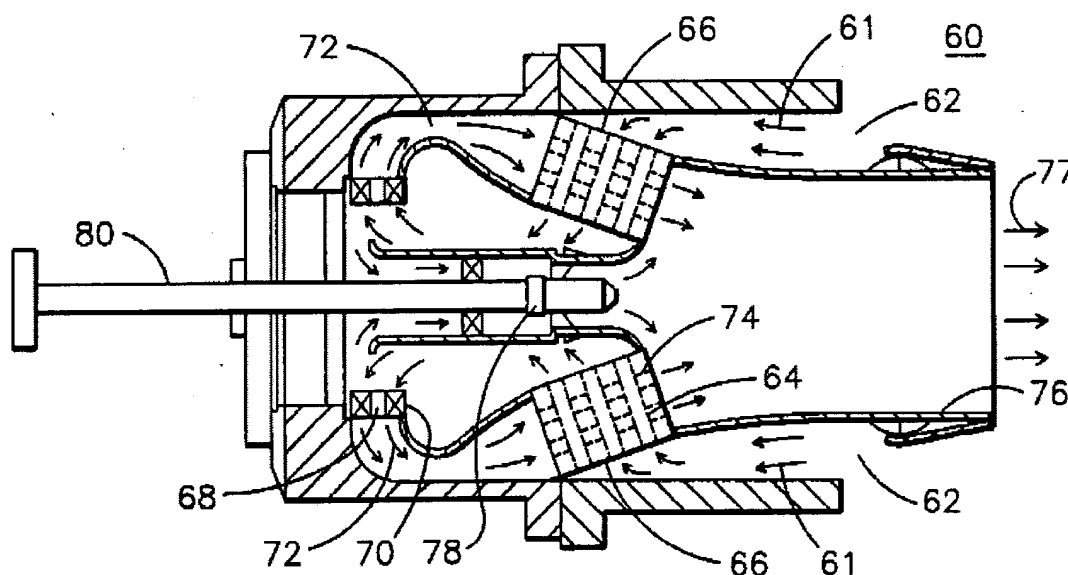


FIG. 3

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With respect to claim 1, **Newbury** teaches a catalytic combustor system for a turbine engine comprising: at least one pilot nozzle 78 providing a first flow exiting the pilot nozzle, at least one catalytic module 66 providing a second flow exiting the plurality of catalytic modules, wherein at least a portion of the second flow is substantially adjacent to at least a portion of the first flow; and at least one vortex forming device 70 positioned substantially within the path of the second flow, wherein at least one vortex is formed in at least a portion of the second flow, whereby at least a portion of the first flow mixes with at least a portion of the second flow. See particularly **Figure 3** of Newbury.

With respect to claim 2, **Newbury** teaches that the at least one catalytic module 66 substantially peripherally surrounds the pilot nozzle 78. See particularly **Figure 3** of Newbury.

With respect to claim 3, **Newbury** teaches that the at least one pilot nozzle 78 substantially peripherally surrounds the catalytic module 66. See particularly **Figure 3** of Newbury.

With respect to claim 4, **Newbury** teaches that the at least one vortex forming device 70 is a swirler.

With respect to claim 6, **Newbury** teaches that the at least one vortex forming device 70 is positioned downstream of the at least one catalytic module 66.

With respect to claim 7, **Newbury** teaches that the vortex forming device 70 includes a plurality of surfaces, wherein each of the surfaces is substantially oblique to the path of the second flow (inherent that a typical swirler has surfaces that are oblique to the flow path in order to create the vortex).

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With respect to claim 8, **Newbury** teaches that the second flow is substantially laminar prior to encountering the vortex forming device 6 (inherent since the purpose of the swirler 70 is to create a turbulence/vortex to enhance mixing).

With respect to claim 9, **Newbury** teaches that the first flow is partially reacted and the second flow is partially reacted (complete reaction takes place when the first and second flows mix).

With respect to claims 11-17, 19 and 20, since **Newbury** has the same structure as claimed by the invention in claims 1-4 and 6-9 (see rejection above), it is inherent that **Newbury's** device would be able to perform the recited method steps.

Allowable Subject Matter

5. Claims 10 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodriguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Rodriguez
Examiner
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